

Vent-A-Hood

Installation & Performance

Troubleshooting Manual

Field Guide for Service & Technical Support Representatives

Vent-A-Hood systems rely on proper installs that allow for low static pressure and unrestricted airflow. Most performance issues are caused by installation conditions rather than product failure. This guide helps service teams quickly identify airflow restrictions, installation errors, and termination problems that reduce system performance. Always remember: if the motors are running and the wheels are correctly installed on the corresponding motor — the hood fan is therefore pushing air. If performance is limited, you must track down where it is being restricted or blocked.

Section 1

QUICK FIELD TROUBLESHOOTING CHECKLIST

- Ensure all blower motors are operating on HIGH.
- Confirm temporary packaging parts are removed (especially the tape holding down the dampers).
- Check that the hood mounting height is within recommended range (most common: 30 inches).
- Verify adequate make-up air is available in the room (crack a window if necessary).

- Once hood is confirmed to be running on high/max and dampers are open, view and photograph the outside wall cap or roof jack to visually and/or physically measure airflow escaping the home.
- Temporarily remove restrictive wall/roof caps or dampers to test maximum airflow.
- Confirm correct duct size and proper transition fittings are used.

Section 2

COMMON CAUSES OF LOW AIRFLOW

- Duct size reduced somewhere in the system — a reduction at any point lowers airflow and increases static pressure.
- Improper transition merging blower outlets.
- Flexible or corrugated duct used instead of smooth metal duct.
- Restrictive roof cap, wall cap, or screen installed.
- Too many elbows or sharp turns creating static pressure.
- Hood mounted too high above cooking surface.

Section 3



BLOWER AND DUCT SIZE REFERENCE

Blower Configuration	Minimum Round Duct Size	Equivalent Area
Single Blower (B100)	6 inch	28 sq in
Dual Blower (B200)	8 inch	50 sq in
Single + Dual (B100 + B200)	10 inch	79 sq in
Two Dual Blowers	12 inch	113 sq in

Note: Never reduce duct diameter at any point in the run. All measurements are minimums.

Section 4

CORRECT VS. INCORRECT WALL TERMINATION EXAMPLES

✓ CORRECT Vent-A-Hood Wall Cap — proper angle, unrestricted airflow, recommended for all installations.	✗ INCORRECT Aftermarket wall cap with angle too steep and run too long — restricts airflow, increases static pressure.
	

Note: Always use Vent-A-Hood supplied or approved termination hardware. Aftermarket caps frequently cause measurable performance loss.

Section 5

DUCTWORK INSTALLATION DO'S AND DON'TS

Proper ductwork installation is critical to maintain airflow and prevent static pressure issues.

Vent-A-Hood

DUCTWORK INSTALLATION DO'S & DON'TS

Vent-A-Hood range hoods must be properly specified and installed to be effective, which is also true of all manufacturers' exhaust systems.

If a Vent-A-Hood is properly specified, poor performance is almost always an indicator of improper installation/use.

If your hood isn't working properly, review these common installation pitfalls, and opportunities for improvement.

Consult your local building code to understand the requirements/limitations for your installation.

DO

 Use smooth galvanized ductwork, round ductwork is best but rectangular can be used.

300 CFM B100 & 250 CFM M250
Round 6" (28.25 sq. in.)
Rectangular 3-1/4" x 10" (32.5 sq. in.)

600 CFM B200
Round 8" (50.25 sq. in.)
Rectangular 6" x 8-1/2" (51 sq. in.) or 4" x 13" (52 sq. in.)




 


Make the duct run as simple as possible with gradual turns, using adjustable elbows.

 Insulate the entire duct run to prevent excessive condensation inside the ductwork.



Install ductwork inside the hood's duct collar to contain any condensation that may occur.

 Tape all joints with aluminum HVAC tape.



Air should move in the same direction as crimped ends for ideal performance.


 


Use unrestrictive wall caps and roof jacks to allow air to flow continuously and freely. Vent-A-Hood dealers have access to the appropriate wall caps and roof jacks.

DON'T

 Don't use flexible ductwork.




 Don't reduce the correct duct size ANYWHERE in the duct run, even at the wall cap or roof jack.




5" duct in place of 6" reduces airflow by 32% (300 CFM to 204 CFM).
7" duct in place of 8" reduces airflow by 33% (600 CFM to 402 CFM).

 Don't turn sharp corners, rapidly moving air cannot make sharp turns.



 Don't use screws longer than 3/8". Screws may prevent the backdraft dampers from opening properly.



Ensure all backdraft dampers open and close completely and freely!

 Don't restrict airflow at the exit of the home with a dead end or screen. Screens reduce airflow by 20-50%.



✓ DO	✗ DON'T
Use smooth round or rectangular metal ducting	Use flexible or corrugated ductwork
Maintain consistent duct diameter throughout the run	Reduce duct diameter at any point
Use gradual elbows and sweeping turns	Use sharp 90° turns or multiple elbows
Keep duct runs as short and straight as possible	Route ducts with unnecessary length or detours
Tape all joints with aluminum HVAC tape	Leave joints untaped or use standard duct tape
Install unrestricted wall caps or roof jacks	Install restrictive aftermarket caps or screens
Ensure backdraft dampers open fully without obstruction	Allow dampers to remain stuck or partially blocked

Section 6

DUCTING BEST PRACTICES SUMMARY

1. Use smooth round or rectangular metal ducting only.
2. Never reduce duct diameter anywhere in the run.
3. Avoid flexible ductwork.
4. Use gradual elbows instead of sharp turns.
5. Keep duct runs as short and straight as possible.
6. Tape all joints with aluminum HVAC tape.
7. Use unrestricted wall caps or roof jacks.
8. Ensure backdraft dampers open fully without obstruction.

Section 7

DIAGNOSTIC QUESTIONS FOR SERVICE REPS

Complete the following fields during or immediately after each service visit. Record findings accurately for internal documentation and escalation support.

#	Diagnostic Question	Field Notes / Response
1	What is the total duct length?	_____
2	How many elbows or turns are in the run?	_____
3	Is the duct size reduced anywhere?	_____
4	What termination cap is installed on the roof or wall?	_____
5	Is make-up air available in the space?	_____
6	Is the hood mounted within the recommended height range?	_____

⚠ DID YOU TAKE PICTURES AND NOTES? — Photo documentation is required for all service visits.

Section 8

TROUBLESHOOTING TABLE: SYMPTOM → CAUSE → FIX

Symptom	Likely Cause	Recommended Fix
Low airflow	Duct size reduced	Replace with correct diameter duct
Low airflow	Restrictive termination cap	Install VAH roof jack or open wall cap
Smoke leaving hood	Mounting height too high	Lower hood to approximately 30–32 inches
Airflow inconsistent	Backdraft damper stuck	Ensure damper opens freely